

# MASTER/DIPLOMA THESIS

The Health & Environment Department of **AIT Austrian Institute of Technology** in collaboration with the **Department of Structural and Functional Botany, Faculty Centre of Biodiversity, University of Vienna** and the **Tropical Station La Gamba, Costa Rica** seek a master/diploma student for studying

## Ultrastructural topography of tropical plant leaves

### Work description

The leaves of certain taxa in the tropics are often colonized by epiphylls (among others mosses, algae, and lichens) while other taxa have apparently evolved effective defence mechanisms that keep their leaf surfaces free from such organisms. What is the reason for the difference? Especially leaves featuring high water repellency (superhydrophobicity) due to micro-/nano-structured epicuticular waxes which rarely are colonized by epiphylls will be in focus of the study. Leaves of selected plant species will be investigated by Scanning Electron Microscopy, Atomic Force Microscopy and contact angle measurements.

We expect to get information about the surface architecture, dimensions and shape of the leaf surface ultrastructure, which are necessary to produce a superhydrophobic environment.

Field work will be conducted at the Tropical Research Station La Gamba, Costa Rica. Laboratory work will be at the AIT Seibersdorf and the Univ. of Vienna. Dept. of Structural and Functional Botany.

### Requirements

- studies in biology, chemistry or related subjects
- experience in scientific working
- excellent English
- team player, highly motivated
- computer skills
- a flair for technical applications

**Begin:** November or December 2010

**Duration:** 6 months, financial support is possible.

### Cooperation project:

Univ. of Vienna, Dep. of Structural & Functional Botany,  
AIT Seibersdorf, Tropical Research Station La Gamba

### Contact:

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